PATENT COOPERATION TREATY

Hoffmann/KFH

From the INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

Rec'd PCT/PTO 29 APR 2005

PCT

To:

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NOTIFICATION OF TRANSMITTAL OF THE INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Rule 71.1)

Date of mailing (day/month/year)	15.02.2005
Applicant's or agent's file reference P6T876PC00 MAP	IMPORTANT NOTIFICATION

International application No.	International filing date (day/month/year)	Priority date (day/month/year)
PCT/NL 03/00744	30.10.2003	30.10.2002

Applicant
4D OFFICE et al.

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international application.

2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.

3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.

4. **REMINDER**

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices) (Article 39(1)) (see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

The applicant's attention is drawn to Article 33(5), which provides that the criteria of novelty, inventive step and industrial applicability described in Article 33(2) to (4) merely serve the purposes of international preliminary examination and that "any Contracting State may apply additional or different criteria for the purposes of deciding whether, in that State, the claimed inventions is patentable or not" (see also Article 27(5)). Such additional criteria may relate, for example, to exemptions from patentability, requirements for enabling disclosure, clarity and support for the claims.

Name and mailing address of the international preliminary examining authority:

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PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference P61876PC00	FOR FURTHER ACTION	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)
International application No. PCT/NL 03/00744	International filing date *(day/month/year)* 30.10.2003	Priority date *(day/month/year)* 30.10.2002
International Patent Classification (IPC) or both national classification and IPC E02D5/56		
Applicant 4D OFFICE et al.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 5 sheets, including this cover sheet.

   ☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

   These annexes consist of a total of 5 sheets.

3. This report contains indications relating to the following items:

   - I ☒ Basis of the opinion
   - II ☐ Priority
   - III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
   - IV ☐ Lack of unity of invention
   - V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
   - VI ☐ Certain documents cited
   - VII ☐ Certain defects in the international application
   - VIII ☐ Certain observations on the international application

Date of submission of the demand	Date of completion of this report
28.05.2004	15.02.2005
Name and mailing address of the international preliminary examining authority: European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized Officer Scharl, W Telephone No. +49 89 2399-2489

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/NL 03/00744

I. Basis of the report

1. With regard to the **elements** of the international application *(Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17))*:

Description, Pages

1, 2, 4-9	as originally filed
3, 3a	received on 28.05.2004 with letter of 28.05.2004

Claims, Numbers

1-17	filed with telefax on 31.01.2005

Drawings, Sheets

1/11-11/11	as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

   These elements were available or furnished to this Authority in the following language: , which is:

   ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).

   ☐ the language of publication of the international application (under Rule 48.3(b)).

   ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

   ☐ contained in the international application in written form.

   ☐ filed together with the international application in computer readable form.

   ☐ furnished subsequently to this Authority in written form.

   ☐ furnished subsequently to this Authority in computer readable form.

   ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

   ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

   ☐ the description, pages:

   ☐ the claims, Nos.:

   ☐ the drawings, sheets:

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

   (Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes:	Claims	1-17
	No:	Claims	
Inventive step (IS)	Yes:	Claims	1-17
	No:	Claims	
Industrial applicability (IA)	Yes:	Claims	1-17
	No:	Claims	

2. Citations and explanations

   see separate sheet

1. The closest prior art is described on page 1, lines 4 to 22 of the present application and concerns light modular constructions, like pond constructions or other garden constructions. Such light constructions are usually made by one or a few persons using relatively light material and simple tools.

The object of the present invention is to solve the problems arising from the prior art systems and to provide a light modular construction wherein the height of the girder and the orientation of its longitudinal axis can easily be adjusted during construction.

According to claim 1, this is accomplished in that the light modular construction comprises

- at least two tubes having a first hollow end projecting into the subsoil, screw thread-shaped flanges being provided on the tubes for supporting the tubes in the subsoil and enabling a height adjustment of the tubes by axially pivoting them;
- at least two coupling pieces which are, at least during construction, axially freely pivotably supported on a second end of the tubes; and
- a girder attached to the coupling pieces.

Such a light modular construction is, in respect of the available prior art, novel in concept, and, moreover, there is no teaching in the available prior art which could have led the skilled person to the construction claimed in claim 1.

Document US-A-4 405 262 concerns a method for erecting a temporary bridge by using a mobile crane or the like. This bridge construction is not a light modular construction in the sense of the present invention which can be erected by a single person. Moreover, the height of the pile cannot be adjusted by simply rotating it.

The subject-matter of claim 1 is therefore both novel and involves an inventive step. The claimed construction is also industrially applicable. Therefore, claim 1 meets the requirements of Article 33(2), (3) and (4) PCT.

2. This is also the case with independent claims 6 and 15 which concern a modular construction system for use in constructions according to claim 1, on the one hand, and a method for building up a light modular construction, on the other hand.

3. Dependent claims 2 to 5, 7 to 14, 16 and 17 describe further embodiments of the subject-matter of claims 1, 6 and 15, respectively. Therefore, said claims meet also the requirements of Article 33 PCT.

By providing the tubes with screw thread-shaped flanges, by which the tubes are supported in the subsoil, in an absolute sense, the tubes are well settable relative to one another, namely by pivoting the tubes.

Because, during construction, the coupling pieces are axially freely pivotably supported on second ends of the tubes, the constructor can easily set the axial orientation of the coupling piece without affecting the height of the tubes. Since the axial orientation of the coupling piece is independent of the axial position of the tube, the height of the tube is also settable without changing the axial position of the coupling piece. This makes it relatively easy, also during construction, when the girder is already supported on the tubes, to adjust the vertical position of the girder.

Owing to the above-described tubes with a partly hollow design and axially freely pivotable coupling pieces supporting the girder, the modular construction offers so much flexibility that the relatively light system can even be built up by one person. Here, it is not necessary to set everything definitively at once. As described, the system provides the very possibility to change height settings during its construction.

In an embodiment according to the invention which can particularly be used in a pond construction, a foil is clamped between the girder and a clamping section clamping around the girder. In this manner, the foil that covers a basin of the pond is secured to the girder.

In another embodiment according to the invention, the modular construction is a pier construction in a pond.

In another embodiment according to the invention, the modular construction is a pergola construction.

The invention also relates to a modular construction system for use in above-described constructions.

In a preferred embodiment according to the invention, the tubes, the coupling pieces and the girder are substantially from steel and/or plastic. This yields a construction which is both light and durable.

CLAIMS

1. A modular construction, in particular a pond construction or other garden construction, wherein the construction is supported in the subsoil, comprising

- at least two tubes, of which first, substantially hollow ends project into the subsoil, and wherein screw thread-shaped flanges are provided on the tubes, which support the tubes in the subsoil,
- at least two coupling pieces which are, at least during construction, each axially freely pivotably supported on a second end of the respective tubes, and
- a girder attached the coupling pieces.

2. A modular construction according to claim 1, characterized by a foil and a clamping section, by means of which the foil is clamped on the girder.

3. A modular construction according to claim 1 or 2, characterized in that the construction is a pier construction.

4. A modular construction according to claim 1, characterized in that the construction is a pergola construction.

5. A modular construction system for use in constructions according to claim 1, comprising

- at least two tubes, each having a first, substantially hollow end, wherein screw thread-shaped flanges are provided on the tubes,
- at least two coupling pieces which fit on second ends of the tubes, for being axially freely pivotably supported on the second ends during construction, and
- a girder for attaching to the coupling pieces.

6. A modular construction system according to claim 5, characterized in that the tubes, the coupling pieces and the girder are substantially from steel and/or plastic.

7. A modular construction system according to claim 5 or 6, characterized in that, near the heads, the tubes are provided with an engaging element for cooperation with a driving element for exerting a turning moment on the tubes.

8. A modular construction system according to any one of claims 5-7, characterized in that cutting sections have been formed on the substantially hollow ends of the tubes.

9. A modular construction system according to any one of claims 5-8, characterized in that the construction system is provided with a clamping section for clamping a foil between the girder and the clamping section.

10. A modular construction system according to claim 9, characterized in that the girder or the clamping section is provided with a flange for supporting a pond edge.

11. A modular construction system according to claim 10, characterized in that the flange is bent obliquely upwards with respect to the ground level, so that it allows the ground level to continue to above the water level of a pond.

12. A modular construction system according to any one of claims 5-11, characterized in that the tubes are provided with attachment means for attaching sheet elements and/or retaining walls.

13. A modular construction system according to any one of claims 5-12, characterized in that the girder is designed as a plate or tube.

14. A method for building up a modular construction, in particular pond constructions or other garden constructions, comprising the steps of

- rotating at least two tubes into the subsoil, which are each provided with a substantially hollow end on the side rotated into the subsoil, and wherein screw thread-shaped flanges have been provided on the tubes for supporting in the subsoil,
- setting the height of the tubes by axially pivoting them,

- sliding coupling pieces on second ends provided on each of the tubes, wherein, during construction, the coupling pieces are axially freely pivotably supported on the second ends,
- setting the axial orientation of the coupling pieces by pivoting them relative to the respective tubes, and
- attaching a girder to the coupling pieces.

15. A method for building up a modular construction according to claim 14, characterized in that the method further comprises the step of locking the coupling pieces in an axial direction with respect to the tubes after setting the height of the tubes and setting the axial orientation of the coupling pieces.

16. A method for building a pond construction according to the method of claim 14 or 15, characterized in that, after the said steps, further, the steps are carried out of
- digging a pond basin,
- laying a foil in the pond basin, en
- attaching the foil to the girder.